

# Public Health Reports

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## Public Health: 1950

This is the second issue of Public Health Reports presenting the scientific highlights of the 78th Annual Meeting of the American Public Health Association in St. Louis, Mo., October 30 to November 3, 1950. The courtesy and cooperation of Dr. Reginald M. Atwater, Executive Secretary of the Association, has made this reporting service possible.

Our sources, aims, and editorial policies were outlined in the December 8 issue and apply with equal force to the material following. We have not abstracted nor summarized the papers presented. Neither have we given a chronological accounting or editorial evaluation of the meeting. This is a news-type reporting of the highlights of many of the sessions . . . a panorama of "Public Health: 1950."

Topics covered here are chronic disease, child health, epidemiology, and medical care. The first part of the report covered defense and world health, public health practice, and environmental health.

We would like to repeat what we said last week: "The material is put forth on a more or less experimental basis both as to content and presentation. We hope our readers will give us the benefit of their comments and suggestions."

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This report was prepared under the direction of Howard Ennes, M.P.H., Office of the Surgeon General, Public Health Service. Appreciation is expressed to the more than 20 members of the Public Health Service staff who aided in the collection and summarization of the material, and to the editorial staff of PUBLIC HEALTH REPORTS who participated in the summarizations in addition to editing the material for publication.

# Chronic Disease

## MULTIPLE SCREENING

### Bright Future Via Experimental Approach

The concept of multiple screening is basically sound and fits in admirably with the current trend in public health toward a unity and greater integration of programs, Leonard A. Scheele, M.D., Surgeon General of PHS, said in giving a general orientation and background to a discussion of current experiences in multiphasic health examinations before the final APHA special session

Multiple screening offers a type of activity in which specific disease control programs can be welded into an integrated approach to the solution of health problems, Dr. Scheele said. He noted that this approach has emerged as an experimental procedure from several well-known public health practices, including mass laboratory testing in epidemic control, industrial and school medical inspections, and the modern concept of mass case finding. Thus, the use of diagnostic techniques has shifted from a rearguard action against epidemics to an offensive against certain chronic diseases.

The Surgeon General reviewed some of the many medical and public health professional issues which revolve around this new approach,\* emphasizing that "the concept of multiple screening has a brilliant future, but the only valid approach at the present time is experimental." As an example of questions which remain unanswered and which require much future investigation, he cited problems centering on the ability of current private and public resources for medical care to handle the large numbers of persons referred to them for diagnosis and treatment in the wake of mass multiple screening.

#### *Goal is Raising Level of Preventive Medicine*

There is continuing need, he said, for basic and applied studies leading to additional and more effective diagnostic tests adaptable to mass application. There is need for research in methods of organization, administration, technical operations, and statistical control. There is need for studies of the socioeconomic effects of multiple screening programs, and for carefully planned and thoroughly applied techniques of appraisal and evaluation.

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\*Dr. Scheele made special mention of the paper by Dr. Joseph W. Mountin in PUBLIC HEALTH REPORTS, Oct. 20, 1950, pp. 1359-1368.

If the multiphasic health examination or the multiple screening campaign is to be woven into the fabric of public health, the Surgeon General felt, it must be directed toward the basic goal of raising the level of preventive medicine in the community. A multiphasic program can be a powerful force for integrating preventive and curative medical services; or it can be an equally potent divisive force, weakening both essential types of service by its effects on public opinion and attitudes. If the program does not satisfy basic needs and desires of the people, the people will lose faith in their public health services or their private medical services, or both.

Dr. Scheele stressed that it is therefore essential that all responsible persons think through a proposed multiphasic program to its logical, long-range conclusions. He said that the focus of thought must be on the patient—the human being, sick or well, in his total environment. The prime consideration is for the physical, mental, and social problems of each individual who presents himself voluntarily to his health department as a “guinea-pig” in this new way of “processing” his blood, heart, lungs, eyes, ears, and so on.

### *Alabama, Indianapolis, New Orleans*

The special session heard reports of six current experiences from persons directly concerned with their planning and direction. W. H. Y. Smith, M.D., Director of the Bureau of Preventable Diseases, Alabama State Department of Health, reported on the State-wide program developed in association with statutory requirements for venereal disease screening. A somewhat different type of continuing program was described by Gerald F. Kempf, M.D., Director of the Indianapolis Department of Health. This program is being operated at Flanner Settlement House in Indianapolis and is yielding valuable statistical data based upon comprehensive follow-up of the screened cases showing positive results.

From New Orleans came a report of another continuing program, this from the School of Medicine at Tulane University. William A. Sodeman, M.D., Professor and Chairman of the Department of Tropical Medicine and Public Health, said their experience indicated that screening procedures must include history and physical examination in order to be effective for degenerative vascular and malignant diseases. Screening by the usual laboratory bracket and chest plate was extremely important in disease detection but left a “blind spot” with reference to important and killing diseases. Other evidence concerning the relative value of the history and physical examination—particularly in terms of time, cost, and returns—was presented by Vlado A. Getting, M.D., Commissioner of the Massachusetts State Department of Public Health.

## ***The Richmond Program***

The most complete screening ever attempted in a single program marked last summer's multiple screening project in Richmond, Va., Edward M. Holmes, Jr., M.D., and Paul W. Bowden, M.D., Director and Assistant Director of the City Health Department, reported. The cooperative program, supported by a large number of local groups and PHS, offered tests for: height and weight for obesity, chest X-ray for tuberculosis and heart abnormalities, blood pressure for hypertension, a blood test for syphilis, a hemoglobin reading for anemia, visual acuity for intraocular tension, a urine analysis for diabetes, and, for every tenth person, an electro-cardiogram.

Dr. Bowden, summarizing Richmond's experiences for the Laboratory Section, advised: "First, do not try to carry too great a load at the expense of the normal routine work without adequate help, both in trained reserve personnel and in enough nontechnical support to allow full use of your technical knowledge; second, be sure to have adequate service personnel to take care of washing, sterilizing, and preparation of supplies to the clinic; and third, do not allow the clinic to take more specimens than the laboratory can handle . . ."

## ***The Atlanta Project***

The Atlanta project, which terminated last June 30, was the largest multiple screening test ever undertaken, reported C. Dan Bowdoin, M.D., Director of the Division of Venereal Disease Control, Georgia State Department of Public Health. More than 236,000 individuals of the greater Atlanta area were tested for seven conditions. Fourteen testing stations were operated in the area in department stores, schools, churches, hotels, and industrial plants. Mobile units were also included. Tests included a blood test for syphilis, diabetes, and hemoglobin; chest X-ray for tuberculosis and other chest pathology and possible abnormalities of the heart; height and weight; and dental examination.

Commenting on the Atlanta program before the Dental Health Section, Ernest B. Mingleдорff, D.D.S., Assistant Chief of the Division of Dental Health, Georgia State Department of Health, said that a total of 213,019 persons volunteered for examinations of the mouth, head, face, and neck. These examinations were performed by 18 graduate dentists. Out of 708 persons who returned for a recheck, 442 were referred to their personal dentists for conditions which were marked "neoplastic and/or precancerous."

A summary panel discussion at the special session brought out that in all programs persons participated voluntarily, and those found to require diagnostic services were referred to their own physicians or other sources approved by the medical profession. Variations in purpose, organization, operational methods, type of public appeal,

number and types of techniques employed, number of persons examined, and average time required for screening were cited as underscoring the developmental nature of the concept at present. Those participating on the panel were: Lester Breslow, M.D., Chief of the Chronic Disease Service, California State Department of Public Health; A. L. Chapman, M.D., Chief of the Division of Chronic Disease, PHS; and Edwin F. Daily, M.D., Director of Division of Health Services, Children's Bureau. C.-E. A. Winslow, Dr.P.H., Editor of the American Journal of Public Health, presided. Sponsored by PHS, a demonstration of multiple screening, in which over 500 persons were tested, featured the scientific exhibits program of APHA.

## AGING AND PUBLIC HEALTH

### Bring Attitudes in Line With Science

As surely as the human body changes with age, so does the social life of a person change—and age, Clark Tibbitts, Director of the recent Conference on Aging,\* told the Sections of Epidemiology, Health Officers, Medical Care, and Statistics.

The aging process falls into two categories: biological and social. Society defines one role—and we adjust to it—nature moves in her own inimitable way. But between the two are many and devious relationships. Man cannot resist nature, as yet, but aging man today is resisting the role society offers—utter oblivion. The challenge to public health is to assist in bringing social attitudes toward aging into line with newer concepts of science, Mr. Tibbitts said.

The problems of the aging group are aggravated today by several factors. There are fewer offspring, hence fewer workers to support the aging population. A speeded-up industry desires only young workers (13 years of possible idleness faces the 65-year-old retired worker). Urbanization has made it difficult, if not impossible, for more than two generations to be housed together conveniently. The lack of facilities for the aging in health services and in social services are glaringly apparent. All of these and more are problems which must be solved before society can say that the job of caring for the aging is being accomplished with any degree of efficiency.

This is the situation the aging face, Mr. Tibbitts said.

What then are the effects upon society, he asked, pointing to the recent Conference on Aging sponsored by the Federal Security Agency and the interest shown by over 800 delegates as important evidence that the Nation is becoming aware of the problems facing

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\*See Mr. Tibbitts' report on the conference in PUBLIC HEALTH REPORTS, Oct. 20, 1950, pp. 1369-1374.

our older citizens. Not only were health and welfare workers aware of the difficulties in their field, but labor, industry, education, and insurance officials voiced the coming needs which must be met.

### ***Economic Troubles Ahead***

The growing number of old people can become financial dependents. In 1948, about 3½ million out of 11 million persons 65 years of age and over had no personal monetary income. Of the 7½ million with an income, one-third had less than \$500 annually. Pensions and government subsidies alone cannot solve the problem. Employment of the older people must become a major factor in the alleviation of this condition. Today they are needed in defense; tomorrow they must continue to be needed for peace, Mr. Tibbitts asserted.

First, their employability and their functional residuals and capacities must be known. The factors which may postpone death in the aged body may also prolong the period of high vitality, and, hence, employability. Research in this field must be interdisciplinary. Biological and medical workers must be concerned with physiological functioning and capacities, psychologists with motivation and trainability, personnel workers with job requirements. The retirement policy of the future must be based upon biological age instead of upon years, and all workers need pre-retirement training. Abrupt retirement may be a death sentence to some. Gradual retirement may be an alleviating practice, he suggested.

### ***Living, Not Just Existence***

The well-being of any individual depends upon his ability to decently satisfy his total needs. The basic needs do not change with passing years, but the means of satisfying them do. Deterioration and early death may follow if the aged person cannot satisfy his needs. He must attain good adjustment through avocational and recreational channels as well as through employment. It must be possible for him to live independently, not in an institutionalized herd. He needs companionship and emotional security. Privacy is as necessary in the older years as it is in younger years, Mr. Tibbitts felt.

Many aged couples need their own homes and these homes should be constructed for the aged—not for youthful limbs and eyes. There should be medical services available, also housekeeping assistance when necessary. Many old couples find the later years together a pleasure and a comfort. Foster homes are needed for those single persons who still desire a semblance of family life. None of these can be available until the community realizes its responsibility; until geriatric clinics, health counseling, hospital facilities, and convalescent care are available. America is appallingly undersupplied today. Even though it may still be too early for many communities to under-

take action programs, they can begin to survey the living arrangement and the needs of the older persons in their midst, he said.

“The questions raised certainly are in the socioeconomic sphere. Whether they fall within the widening sphere of public health,” said Mr. Tibbitts, “is a matter of the concept of each of us; certainly they do impinge.”

## REHABILITATION

### Living To Hilt of Capabilities

Today, as medical science moves forward in the prevention and cure of infectious disease, chronic illness and crippling have become the Nation's primary medical problem. Such was the key of the clinical demonstration on rehabilitation and public health presented before the Medical Care Section by Howard A. Rusk, M.D., Chairman of the Health Resources Advisory Committee of NSRB, and D. Elliott O'Reilly, M.D., Chief of Physical Medicine and Rehabilitation of the St. Louis University School of Medicine.

They pointed out that one of the principal causes of the increase in crippling has been the great advances in medical and surgical care which have prevented death and produced an aging population. Two thousand years ago, the average length of life was 25. At the turn of the century, it was 49. Today, it is 67.2. What, they asked, are the medical and public health implications of this increasing age level of the population?

First, as people become older, their medical needs change, and they demand more medical service. Today, we are busily studying and discussing the needs and the best plans for increasing and distributing medical services, yet the growing age level of the population indicates that by 1980—when it is expected that the number of persons over 45 will constitute nearly half of the population—we may need nearly double the amount of medical service that is available today.

Second, lacking specific measures in the cure of many of the chronic diseases, medicine must look to rehabilitation to teach those afflicted by chronic disability to live and to work as effectively as possible with what they have. Until medicine finds specific answers to the problems of the diseases of the heart and circulation, rheumatic fever and arthritis, cerebral palsy, multiple sclerosis, poliomyelitis, and the other crippling diseases, we must utilize the techniques of physical rehabilitation, psychology, social service, and the other allied ancillary specialties of rehabilitation to teach the disabled to live within the limits of their disabilities but to the hilt of their capabilities.

The clinic demonstration included presentation of methods of

rehabilitation with patients suffering from hemiplegia, paraplegia, arthritis, and residual physical disabilities from poliomyelitis. It was emphasized that the selectively placed rehabilitated person can do the job better than the unhandicapped. In fact, only 1 percent of persons can do any job, and only 1 percent can do no job at all.

Rehabilitation calls for medical and surgical restorative services, training in use of appliances and equipment, and selective placement. All general hospitals should have rehabilitation units, and local health officers have primary responsibility to stimulate rehabilitation work in their communities, Drs. Rusk and O'Reilly felt.

## CANCER

### Control Programs Use New Tools

Eleven reports on the dramatic growth of cancer control programs in the United States and other countries were made at the seventh annual scientific session of the Public Health Cancer Association. An across-the-border flavor was added as Ralph Warwick, M.D., Executive Director of the National Cancer Institute of Canada, and Austin V. Deibert, M.D., Chief of the Cancer Control Branch of the National Cancer Institute, PHS, reported on parallel developments in official cancer control programs.

Pointing out that cancer control has no established case-finding device that can be applied on a mass basis, Dr. Deibert called the program one of inquiry, of applying new or recognized procedures for trial or demonstration purposes as well as for disease control. Among new tools listed were a series of diagnostic motion pictures for physicians, a film to teach women breast self-examination, programs to investigate environmental cancer and cancer diagnostic tests, and programs for improving cancer instruction of mental, dental, and pharmacy students.

The Director of the Danish Cancer Registry, Johannes Clemmesen, M.D., now a special fellow at the National Cancer Institute, reported that analysis of registry cases in Copenhagen demonstrated a close parallelism between social status and incidence of cervical cancer. He felt this was possibly explainable by a difference in the number of pregnancies, and that lung cancer and breast cancer are probably influenced by social status.

#### *Lung Cancer and Smoking*

An intensive follow-up of suspected cancer cases in Boston, made in conjunction with a tuberculosis X-ray survey, turned up enough previously unknown cancer cases to justify looking for lung cancer in

tuberculosis studies, according to a preliminary report by Clarence L. Scamman, M.D., of the American Cancer Society. Of more than one-half million persons X-rayed with small film, over 9,000 were sufficiently suspect for large-film study; 76 cancer cases were found in this group. Tobacco smoking was implicated in lung cancer, said Lester Breslow, M.D., Chief of the Chronic Disease Service of the California Department of Public Health, whose preliminary data were consistent with earlier studies by other groups. The discussant, Dr. Evarts Graham of Washington University, strongly supported this view.

Insufficient sensitivity and specificity to justify use of the Iodoacetate Index as a practical tool for cancer case finding was reported by G. J. Dammin, M.D., Associate Professor of Pathology at Washington University School of Medicine, at a joint session of the APHA Laboratory Section and Public Health Cancer Association. The cytologic test, developed by Papanicolaou and others, has proved to be of value in early diagnosis of lung cancer as well as other sites, according to Peter A. Herbut, M.D., Professor of Pathology at Jefferson Medical College. Methods of evaluating chemotherapeutic agents in cancer were reviewed by C. Chester Stock, Ph.D., Chief of the Division of Experimental Chemotherapy of the Sloan-Kettering Institute for Cancer Research.

## MORBIDITY ANALYSIS

### **Dynamics of Illness Can Be Studied**

A critical review of methods of measuring incidence and prevalence, particularly in chronic disease, was given before the Epidemiology, Health Officers, Medical Care, and Statistics Sections by Harold F. Dorn, Ph.D., Chief of the Biometrics Branch, National Institutes of Health, PHS.

He set forth five principles by which methods of studying the natural history of disease may be evaluated: (1) The size and composition of the base population must be known; (2) generalization of findings beyond the specific population studies should be possible; (3) the study should extend over a period of time; (4) as much as possible of the entire scale of ill health should be included; (5) it should be possible to obtain detailed verifiable information about illness.

Dr. Dorn examined, from these standpoints, universal reporting, records from health, medical or insurance programs, population surveys, longitudinal studies, and diagnostic surveys. He concluded that no single method is satisfactory by itself. He pointed out, however, that the population survey, especially if combined with some

form of diagnostic screening and verification of diagnosis, can be expected to yield reliable incidence rates for all forms of illness and prevalence rates for specific diseases. It will also produce data for studying the relationship of these to different demographic and environmental factors.

Population surveys are not very efficient for measuring the incidence of specific diseases, Dr. Dorn said, especially those which do not have abrupt onset and persist for long periods. Consequently, the population survey should be supplemented with intensive studies of illness in complete population groups. Longitudinal studies offer real promise, he felt, and "only in this way can the dynamics of illness be understood."

## **HEART DISEASE**

### **Long-Term Studies at Framingham**

Description of a long-term epidemiological study of heart disease based on a population of normal composition, including both the sick and the well as they are found in a community, was given before the Epidemiology, Health Officers, Medical Care, and Statistics Sections by Thomas R. Dawber, M.D., Gilcin F. Meadors, M.D., M.P.H., and Felix E. Moore, Jr., of PHS.

They pointed out that almost nothing is known of the epidemiology of hypertensive or arteriosclerotic cardiovascular disease, although these two account for the great bulk of deaths from cardiovascular disease. The Framingham study was reported as an approach to the problem.

This project, set up in 1947, is carried on by the National Heart Institute of PHS in cooperation with the Massachusetts State Department of Public Health and the Town of Framingham. The plans for the project were given the endorsement of the Massachusetts State Medical Society. A sample of 6,000 residents of Framingham between the ages of 30 and 59 are being given a cardiovascular examination in a special clinic. Those found free of arteriosclerotic or hypertensive cardiovascular disease will be given biennial follow-up examinations over an extended period in order to determine the point of onset of these diseases in previously normal individuals. All medical planning for the study was done in consultation with a technical advisory committee made up of 11 physicians from the Boston area who are expert in the fields of cardiology and public health.

Retrospective analysis of the data will permit the isolation of factors associated with the development (or nondevelopment) of these forms of cardiovascular disease. Data will also become available on the efficiency of various diagnostic procedures in detecting heart disease

or in predicting its future development. An important byproduct will be data on prevalence and incidence of cardiovascular disease in a carefully examined population of normal composition.

The work of building a community organization began months before the start of clinic operation, Dr. Dawber reported. From this study grew plans for the appointment, by the town health officer, of a 15-person executive committee for the study—a committee which was broadly representative of the various groups in the community. Parallel to, and integrated with, the lay executive committee, a professional committee of physicians and dentists was organized under the chairmanship of a cardiologist. Together, the executive committee and the professional committee accepted the responsibility to assist in planning a program which would be acceptable to the community as a whole; to interpret the aims and objectives of the study in a way which would be understandable to all elements of the community; and to bring recognized and potential leaders of the community into active participation in the organizational aspects of the study.

The service aspects of the study are limited to diagnostic information which is furnished only to the personal physician of the person examined. Where there are abnormal findings, the individual is referred to his own physician for interpretation of the findings and treatment if necessary. The clinic staff does not provide treatment nor offer advice on treatment.

## **FOOD ACCEPTANCE**

### **Appetite Levels, Productive Longevity**

“Appetite level” records may reveal one of the most objective methods of diagnosing the nutritional corrective for chronic disease since the relationship is doubtless complex and multiple, it was suggested to the Food and Nutrition Section by W. Franklin Dove, Ph.D., Director of Food Acceptance Studies at the University of Illinois College of Medicine.

He noted that the continual acceptance and rejection of foods by each individual from day to day, year to year, from birth to old age, gradually makes a strong impression upon the mind as well as upon the function, form, and status of the body. These mental impressions and bodily effects come to be expressed through likes and dislikes, preferences and prejudices. They are strongly associated with the subsequent rate of food consumption and the amount of nutrients consumed. Eventually they determine, at least in part, the physiological success of the individual. It may be possible to measure this charac-

teristic of appetite levels and to relate it, through the foods accepted, to productive longevity.

In the surveys on human appetite levels, the ability of the subjects to continue active duties of their occupation, regardless of age, can be used as the measure of biological success. A measure of productive longevity for contrast with measures of nutritional deficiencies and chronic diseases may not need any further refinement as a measure of success than the ability to work day after day, assuming that opportunity is given to work and retirement not enforced at the young age of 65.

## **CITY PROGRAM**

### **Community-Wide Planning Basic Need**

“We are thoroughly convinced that the most effective approach to the control of chronic diseases lies in community-wide planning. The official agency cannot perform or accomplish the whole program. It cannot successfully initiate or undertake all the studies that are needed. It cannot by itself gain the needed community support. At best, it can stimulate the community by focusing attention on the problem. To achieve community support, the health officer must work in complete cooperation with the health-related agencies of his community.”

Thus concluded Edward M. Holmes, Jr., M.D., M.P.H., and Paul W. Bowden, M.D., M.P.H., Director and Assistant Director of the Department of Public Health, Richmond, Va., in reporting to the Epidemiology, Health Officers, Medical Care, and Statistics Sections on development of chronic disease activities and the role of the health department. They reported on the work of a community-wide committee on chronic diseases and cooperative activities representing an annual per capita expenditure of \$8.02 of which \$5.27 is budgeted by the health department and only 4 percent represents State and Federal funds.

#### ***Breaking with Public Health Traditions***

Describing the background of the project, they recalled that the staff of the health department soon realized that the chronic disease problem was complex, and that part of the imbalance in the department's over-all program was due to the increased emphasis being given to these diseases. The staff was also aware that the organization of a community-wide program for the control of these conditions would necessitate the breaking of many public health traditions. Such a program would call for the greater emphasis on the curative

aspects of medicine, on rehabilitation, and, lastly, it would definitely require the department to assume greater responsibility in the field of medical care, Drs. Holmes and Bowden noted.

In 1947, they said, the Richmond Area Community Council was asked for advice and assistance. After preliminary studies and planning, the chronic disease committee and a committee on geriatrics was set up. Special aspects of the over-all problem were examined by subcommittees and the general committee, and actions recommended.

### ***New Home Care Program***

One topic explored was the home care service which, Drs. Holmes and Bowden said, was "no better or worse than the home care provided under the usual 'city poor' physician type of program." After careful study, it was recommended in 1948 that the city abandon the services of its six part-time physicians, that it establish within the Medical College of Virginia three residencies in general practice, that a general practice clinic be established within the Medical College of Virginia, and that the hospitalization and out-patient clinic program for the indigent be coordinated with the home care service.

This proposed program was endorsed by local medical authorities and was put into effect in 1949. The home care program is now providing a service of high quality which guarantees continuity between the home, the clinic, the hospital, convalescent facilities, and the rehabilitation center, they said.

### ***Nursing Merger and Medical Care Facilities***

On the basis of a 2-year demonstration in South Richmond, tentative plans are being laid for a city-wide merger of the nursing service of the health department and the Instructive Visiting Nurse Association, it was reported. This merger would be effected by contract renewable on an annual basis and provides that the Nurse Association retain its integrity. Bedside nursing service is also under study.

In 1947-48, a subcommittee made a detailed study of the existing facilities available for the care of chronic illnesses. This study included consideration of bed capacity, percentage of occupancy, patient days, admission policies, average stay, and monthly rates. On the basis of the report, the committee on chronic diseases recommended that a 125-bed chronic disease facility be located in a general hospital; the city home be renovated and utilized for convalescent care for the indigent and the medically indigent; a convalescent facility be made available near the tuberculosis sanatorium so planned as to permit a maximum of self-help and occupational therapy; and rehabilitation of chronically ill patients in the acute and chronic hospitals be stressed. Authorities have taken positive action.

### ***Dental Care and Rehabilitation***

Still another committee surveyed dental care facilities and emphasized a dental care program for the needy, Drs. Holmes and Bowden said. An adult care program established within the health department's medical care bureau was recommended, and \$25,000 was appropriated by the city council.

Another subcommittee studied the adequacy of the community's rehabilitation facilities for 2 years. Out of this study grew specific recommendations, the publication of a directory of available facilities, and an educational campaign encouraging the employment of the handicapped.

In the midst of these and related studies, the Richmond health officers reported, it was possible for the department—on a broad, community-cooperative basis—to operate a pilot study of community-wide application of multiple screening techniques as a means of case finding and measuring the chronic disease problem.

# Child Health

## CHILD HEALTH CONFERENCES

### Focus on Mental Health of Child

Current trends and developments in child health conferences are encouraging, but any cheerful impression that it is a universal or comprehensive movement is sobered by findings of the American Academy of Pediatrics that only 6 out of 1,000 children in the United States under 5 years of age attended a conference during the year of study, reported Samuel M. Wishik, M.D., M.P.H., Director of the Bureau of Child Health of the New York City Department of Health. He previewed material being collected by the APHA Committee on Child Health and summarized current trends for the Sections on Food and Nutrition, Maternal and Child Health, and Public Health Nursing, and the American School Health Association.

Among significant trends noted was that of taking positive steps to keep the preschool-age child under health supervision. Two factors which bear on this trend are the practice of giving booster immunizations between the first year and school attendance, and the emphasis upon the psychological aspects of feeding.

#### *Immunization and Feeding*

Separate special immunization sessions have almost disappeared. Since immunizations are now usually given at the time of a regular health supervision visit, better opportunity exists for health education. Conferences are utilizing such simple but salutary measures as having the needles and other immunization procedure kept out of sight so that other children in the waiting room are not disturbed, and giving the child truthful warning in advance of the injection.

In feeding instructions the trend is away from rigid scheduling and prescribed quantities of solid food and more upon the psychological aspects of the feeding situation. Feeding probably still rates number one in frequency among child rearing problems but seems to be lessening as a somewhat more permissive atmosphere is being created around the feeding situation. Sleeping problems are probably running a closer second to eating difficulties than was formerly the case.

The mental health or psychological aspects of child rearing are taking on increasing importance in the work of the child health conference, as in general pediatric thinking and practice today, Dr. Wishik pointed

out. The primary objective expressed by the majority of child health conferences is to help parents to rear children so that the children will be healthy and the family setting will be a wholesome one. Discussion on feeding, sleeping, habits, discipline, and behavior take a prominent place in the work of the child health conference. At the same time, distinction is quite clear between these activities and those of a psychiatric service such as a child guidance clinic.

### *Anticipatory Guidance*

It is to those who have not yet experienced difficulty, to whom child health conferences are trying to give greatest attention. The terms "anticipatory guidance" or "anticipatory counseling" are being used to describe the practice of forewarning mothers of the critical points in child rearing at which troubles commonly begin. For example, Dr. Wishik said, when a mother happily reports that her 10-month infant eats a large bowl of cereal, she is told that when the baby will be about 15 months old, he may actually eat less food than now. He will be bigger, but he will be growing less rapidly and need less food. Many feeding difficulties begin because of the mother's concern at the unexpected drop in intake. Here is the best kind of preventive mental hygiene at a simple physiological level, he said.

With the increasing emphasis on the mental health aspects of child rearing, the traditional instructional type of interview between the mother and the doctor or the mother and the nurse becomes less appropriate. The two-way discussion in which the professional person does at least as much listening as talking is now beginning to appear. Since the interview has not been a prominent part of the professional training of the physician or the nurse, new techniques in the medical and nursing interview must be developed. For example, the classical rigid sequence of history taking, physical examination, immunization, or other procedure must be modified and fitted into the total interview situation.

### *Group Teaching Techniques*

Dr. Wishik noted that for a good many years, sporadic efforts have been made to supplement the individual interview with group teaching. Studies are now under way, he reported, on the most effective composition of groups of mothers and the methods of introducing group techniques into the child health conference. The scope of the group work is intended to be no broader than the usual content of the conference and the group sessions are to be carried by the regular conference staff.

Two general points stand out from the current survey, Dr. Wishik felt. First, it is quite clear that no immediate substitute for child

health conferences exists in many parts of the country and that for the present such services need expansion and strengthening. Second, it is apparent that immediate consideration could be given to making available to the private physician the public health nursing group instruction of mothers, printed literature, and other advantageous features of the child health conference.

## **FOOD AND NUTRITION**

### **Children Must Learn Good Food Habits**

The problem of really improving the nutritional status of children is a problem of improving their food habits, and children must be educated to eat the foods presented, Martha E. Hollinger, Associate Nutritionist at the Agricultural Experiment Station, Louisiana State University, told APHA nutritionists.

Introducing more protective foods into the diet through the school lunch program is largely an educational problem, she said, noting that the school lunch room is no longer a mere low-cost filling station but an integral part of the school health program. To improve food habits of school children, nutrition education must begin with principals and teachers. Too few of these understand the importance of protective foods in their own diets and the even greater importance of these foods in the diet of the growing child.

Teacher education, Miss Hollinger felt, has been extremely short on the simple basic nutrition information needed by the teachers to select an adequate diet for themselves or to help children. There is a crying need for integration of simple basic nutrition information into programs in teacher training institutions and in public schools. But such instruction must deal with more than facts, for knowledge about nutrition does not of itself guarantee the practice of good habits of eating. Nutrition instruction must develop a desire to make these facts function in the daily life of individuals.

### ***Controllability of Human Growth***

There is evidence that growth can be controlled within limits through environmental factors, Julian D. Boyd, M.D., Professor of Pediatrics at Iowa State University College of Medicine, said at a panel discussion on child growth and development at a joint session of the Food and Nutrition, Maternal and Child Health, and School Health Sections of APHA, and the American School Health Association.

The rate of growth is subject to decelerating factors, and faulty nutrition is probably the most important direct cause. Many acces-

sory factors may favor faulty nutrition, including chronic physical or emotional fatigue, recurrent infections, emotional disturbances, and sometimes metabolic derangements. Insistence on performance which exceeds the child's ready capacities in either the physical or the emotional sphere may lead to the establishment of a vicious cycle. Smallness of stature and underweight frequently are the forerunners of more obvious and more severe disturbances of health.

While admitting that genetics plays a determining role in the establishment of the upper limits of growth and development, Dr. Boyd felt it was important to recognize that faulty environmental agencies often suppress the native rate of growth and ultimate physique. Appraisal of physical growth should be a part of each examination of the infant or child, whether or not disease is suspected. Substandard response, either for body length or for weight, should lead to meticulous investigation of the child's pattern of living, with the assumption that such pattern is at fault until it is proved otherwise.

## **SCHOOL HEALTH**

### **Medical Society Participation High**

Research trends and development were reviewed, and four specific projects reported to the School Health Section. Fred V. Hein, Ph.D., and Donald A. Dukelow, M.D., of the Bureau of Health Education of the American Medical Association, said that more than 1,000 local medical societies provided data for a questionnaire study of physician and medical society participation in school health services.

They reported a high level of interest and participation by physicians and medical societies in many aspects of school health services, and pointed to some areas in need of strengthening. One-third of the medical societies replying have a school health committee. One-quarter of the communities have school health councils, nine-tenths of which include medical society representation. School physicians, chiefly part time, are reported by slightly more than half of the medical societies. There is little difference in the proportion of school children examined by family physicians and school physicians.

Established methods of referring children to a physician through their families are reported for 80 percent of the communities. Channels by which the family physician can inform the school of a child's special health needs were cited for 64 percent. Two-thirds have modified physical education to meet special needs of pupils, and a quarter provide corrective exercise on medical prescription. Basic health services for athletes are reported by four out of five. First-aid facilities are present in over three-fourths, but only a third have

complete plans for emergency care. Exclusion and readmission for communicable disease are acceptable to school and health officials in 87 percent. Only half report pre-employment and periodic health appraisal of school personnel.

### ***12,000 Physicians for Inspections?***

In many communities in the United States an annual examination of every school child is utilized to find children in need of medical attention. If this were done throughout the United States the services of 12,000 physicians for half a day every day in the school year would be required solely to examine every elementary-school child, commented Alfred Yankauer, Jr., M.D., Director of Maternal and Child Health Services for the Rochester Bureau of Health.

Since it is unrealistic to think of meeting such requirements, it becomes important to develop screening techniques which will utilize professional personnel to their best advantage yet not overlook any child who needs attention. Dr. Yankauer said that the Astoria plan of school medical service developed in New York City in 1940 utilizes the teacher to refer selected children to the school nurse and physician.

Experiences with a rheumatic fever institute, national in scope and designed to review the public health aspects of rheumatic fever and other pediatric cardiac problems and to demonstrate the interrelationships of the disciplines rather than to emphasize the clinical aspects, were reported by Ruth Whittemore, M.D., of the Connecticut State Department of Health and Associate Clinical Professor of Pediatrics at Yale University. The impetus for this institute, held at New Haven, came from the Children's Bureau, and findings are being utilized in planning further projects.

From St. Louis came a report of a vision testing project designed to develop a screening test which could be administered by nontechnical personnel to large groups of children. The eyes of 1,216 pupils in the first and sixth grades of 14 public schools were examined by several tests, and about 26 percent were found in need of correction. This project was jointly sponsored by the Children's Bureau, the National Society for the Prevention of Blindness, and the Missouri Division of Health with the cooperation of the St. Louis Board of Education and the Washington University School of Medicine.

## **PREMATURE INFANTS**

### **Standardization of Reporting Essential**

Rapid strides are being made in the prevention of premature birth and the care of premature infants, and important responsibilities in

the measurement of needs, planning of programs, and evaluation fall to official health agencies, the Maternal and Child Health Section heard.

Basic data needs and the importance of standardization of reporting and analysis—a move materially aided by the 1949 revision of the standard birth certificate—were discussed by Elizabeth Parkhurst of the Office of Vital Statistics, and Edward R. Schlesinger, M.D., Director, Bureau of Maternal and Child Health, New York State Department of Health. The mortality rate among premature infants has been declining in New York since 1945, they reported, the overall reduction being 14 percent.

Based on New York experience, they felt that it was the responsibility of State health departments to compute and make such data available. They are in a better position than local departments to correlate the information and insure uniformity of classification and tabulations. Also, few hospitals, even the largest, have facilities for the statistical analysis of their cases.

### ***Uniform Hospital Data***

Problems of standardization of hospital statistics were outlined by Samuel M. Wishik, M.D., Director of the Bureau of Child Health, New York City Department of Health. He and his associates (Helen M. Wallace, M.D., Rowland Mindlin, M.D., and Arthur Lenz) reported that there are approximately 150,000 live births recorded each year, and about 8 percent are premature. Although infant mortality is 2.5 percent, among premature infants it is approximately 17 percent. They felt that a uniform method of keeping statistics on premature infants was obviously necessary to evaluate the care afforded in premature centers.

Dr. Wishik's group reported on a sampling analysis of the reporting problem and on the method developed to overcome inaccuracies. An effective system, they said, should make it possible to evaluate not only the pediatric and nursing care of the premature infant but also to evaluate to some extent the quality of antepartum and intrapartum care, since a premature birth and a death in a premature infant, in a sense, may be interpreted as a deficiency in obstetrics in some instances. "The role of the obstetrician," Dr. Wishik noted, "is a difficult one in which to stimulate community and professional interests."

### ***Qualitative Evaluation***

From Philadelphia came a report of a community study of neonatal mortality. Elizabeth Kirk Rose, M.D., Chief of the Division of Child Hygiene in the city health department, told of the committee representing the five medical schools, the Philadelphia County Medical

Society, the Philadelphia Pediatric Society, and the health department. The groups meet several times a year to review reports of neonatal deaths from the point of view of the cause of death, the rating of responsibility as to whether obstetric or pediatric, preventable or not, and the possible factors.

The rating of responsibility is never judged lightly, Dr. Rose said. It may be tentatively rated and the case referred back to the hospital representative to ascertain the staff's opinion if not already clearly stated. If the case seems of sufficient interest or importance, it may be selected for discussion at an open meeting. Three weeks before a meeting the representative is notified. He reviews the hospital record, notifies all interested staff members, and presents the case. Then there are questions and discussion, and a vote is taken both as to the cause of death and the rating of responsibility. It is the atmosphere of these meetings and the tone of the whole program of activity that is the keystone of any success this study may have had. The realization that others have problems, too—that others make mistakes but have learned to discuss them objectively in an honest endeavor to find out how to reduce their frequency, to learn of new application of scientific advances—this is the inspiration and satisfaction that are basic to any cooperative educational effort, Dr. Rose emphasized.

Data regarding infant prematurity in Tennessee have served to show the nature and size of the problem in the State, and as a result county personnel are now evaluating their own problems, Robert H. Hutcheson, M.D., Commissioner of Health, and Ruth R. Puffer, Dr.P.H., Director of the Statistical Service, State Department of Health, reported. From a study of the infant deaths reported in 1949, it was found that 45.3 percent of the infant deaths were of premature babies. The neonatal mortality rate for premature infants in 1949 was 210.1 per 1,000 live births. For full-term infants the neonatal death rate was only 10.5 per 1,000.

## **WATER FLUORIDATION**

### **Caries Reduction Seen in Wisconsin**

To reduce the incidence of dental decay, 32 Wisconsin cities are fluoridating their water supplies at a cost of from 2.7 to 9.5 cents per person annually, M. Starr Nichols, Ph.D., Professor of Sanitary Chemistry at the University of Wisconsin Medical School, told the Dental Health Section. He said that 27 installations in the State are adding sodium fluoride to their water, one is adding hydrofluoric acid, one hydrofluosilicic acid, and three fluosilicate.

Figuring daily water consumption for all purposes at 100 gallons

per person, the total cost per person per year to maintain a fluoride concentration of 1.2 ppm with the various compounds is: sodium fluoride, 9.5 cents; sodium fluosilicate 2.7 cents; hydrofluosilicic acid, 7.5 cents; and hydrofluoric acid, 8.6 cents. The kind of fluorine compound fed into the water supply is determined by the arrangement of the equipment and the size of the installation. Because water works operators can be hurt by hydrofluoric acid, Dr. Nichols believes that it should not be recommended for fluoridation. All cities using fluoridation analyze their treated water several times a day so that the actual amount of fluoride is checked against the amount fed. This testing equipment is easily used, he said, and the results are so accurate that it is not difficult to operate within the safe limits of 0.1 or 0.2 ppm.

Only one city in the State has been operating long enough to show the effects of controlled fluoridation on tooth decay. In this city, Sheboygan, Dr. A. H. Fink, local dentist, and Dr. F. A. Bull, State Director of Dental Health, found that in 1945 before fluoridation, 20.4 percent of the 5-year-olds examined were without caries. After fluoridation, September 1946, 26.9 percent of the 5-year-olds were without caries; in September 1947, the percentage was 28.2; in September 1948, 32.4; in 1949, 37.3; and in September 1950, it was up to 43.1. In 1949 tooth decay rates for children in the fourth grade fell 24 percent; for youngsters in the 7th and 8th grades, 18 percent.

## **NEW ZEALAND**

### **Dental Correction Rate High**

In New Zealand, as in America, it is the rare child of 12 to 14 years of age who has a perfect set of teeth, John T. Fulton, D.D.S., Dental Services Adviser to the Child Development Research Branch of the Children's Bureau, reported to the Dental Health Section.

As a World Health Organization Fellow, he made first-hand observation of the extent of dental caries in some 1,400 children in New Zealand. Comparing his findings with published data for seven comparable areas in the United States, he found that the number of permanent teeth attacked by caries ranged from 4.7 to 9.3 per child. New Zealand was third highest, with a rate of 8.6 per child.

In New Zealand he found that 86 percent of the attacked teeth were filled. In contrast, in each of the seven United States areas the proportion of filled teeth was low, varying from one-fourth to one-half. Conversely, the percentage of tooth loss was lowest in New Zealand, the nearest American group being almost twice as high and another almost five times higher.

# Epidemiology

## LABORATORY INFECTIONS

### 1,334 Infections, 39 Deaths Reported

The first comprehensive survey to be made in this country of the incidence of infection among laboratory and research workers was reported to the Epidemiology and Laboratory Sections by S. Edward Sulkin, Ph.D., and Robert M. Pike, Ph.D., Professor and Associate Professor of Bacteriology and Immunology, Southwestern Medical School of the University of Texas.

A total of 1,334 infections presumably acquired as a result of laboratory work in the United States have been tabulated. Death resulted in 39 instances, a case fatality rate of 3.0 percent. Approximately one-third of the infections have been recorded in the literature. The remainder were discovered by means of a questionnaire mailed to nearly 5,000 laboratories. The survey was conducted under the auspices of the APHA Laboratory Section and the Division of Research Grants and Fellowships of the National Institutes of Health, PHS.

The laboratory-acquired infections include 773 bacterial, 261 viral, 200 rickettsial, 39 parasitic, and 61 due to fungi. At least 68 different agents were involved, but brucellosis, tuberculosis, tularemia, typhoid fever, and streptococcal infections accounted for 72 percent of the bacterial infections and 31 percent of all infections. The species of *Brucella* involved was stated in about 60 percent of the 223 cases of brucellosis. *B. abortus*, *B. melitensis*, and *B. suis* were about equally involved. *Coccidioides* outnumbers all other fungi as a cause of laboratory infection due undoubtedly to the highly infective nature of the chlamydo spores. Laboratory infections with this agent are known to have occurred even in personnel who are not working directly with the fungus.

#### *Most Infections in Scientists*

Trained scientific personnel were involved in 1,005 of the infections. The remainder occurred in students, animal caretakers, janitors, and others. Research accounted for 301 cases, diagnostic work for 455, production of biologics for 25, and classwork for 29, while in the remaining cases a combination of activities was involved.

Drs. Sulkin and Pike said that the probable source of infection was

indicated in all except 248 cases. The handling of clinical specimens and infected animals or ectoparasites accounted for 175 and 137 cases, respectively. Aerogenic transmission and "work with the agent" were other frequently recognized sources of laboratory infection. There were 98 infections acquired in the autopsy room. Recognized accidents, excluding autopsy accidents, were involved in 213 instances. The type of accident responsible for the largest number of infections was associated with the use of a hypodermic needle and syringe. The surveyors reported that several individuals have acquired more than one laboratory infection. Also, although numerous inapparent infections are known, these were not included in the tabulations.

### ***Tularemia and Brucellosis Dangerous***

Other reports deal with laboratory hazards attending mycotic infections, tuberculosis, virus and rickettsial diseases, and with biological safety devices.

Carl L. Larson, M.D., Director of the Rocky Mountain Laboratory of the Microbiological Institute, PHS, said that recent reports from institutions dealing with tularemia and brucellosis suggest that these two diseases are particularly dangerous to handle under laboratory conditions. He pointed out that, in general, infections resulting from handling large quantities of material are not due to breaks in bacteriological technique, but rather that the manipulation of increased volumes of infective material causes a greater amount to be released into the environment.

Certain pieces of apparatus—such as tissue blenders and shaking machines—which may be employed without any considerable danger in working with other organisms are likely to constitute a source of infection in the case of brucellosis and tularemia. Particular danger is attached to the study of tularemia in rabbits, since these animals develop pulmonary lesions and consequently release organisms into the surrounding air.

## **GEOMEDICAL MAPS**

### **Atlas Links Diseases and Geography**

Epidemiologists at APHA heard of a project which "has served to relight the spark of creative enterprise and reopen international scientific intercourse for the participants, and to reaffirm the non-political international basis for scientific cooperation among free men."

The project was "The Atlas of Epidemiology." It was reported

upon by Harry J. Alvis, M.D., M.P.H., head of the physiology faculty of the U. S. Naval Medical Research Laboratory, New London. Reviewing the background of the project, he said that during World War II German epidemiologists developed a collection of maps demonstrating the relationship between disease and geographic elements. Recognizing the scientific merits and broad utility of such information, the Navy Medical Corps has sponsored the compilation in Germany of an Atlas of Epidemiology having unity and coherence throughout, Commander Alvis said.

Geographic areas will be depicted on basic maps demonstrating altitude, routes of travel, rivers, principal cities, and pertinent background material. A series of overprintings will demonstrate the various elements in the geomedical complex. The maps depicting diseases will fall in one of three categories indicating (a) areas where the disease has been identified, (b) areas where the disease is endemic (static phase), or (c) areas over which the disease has spread (dynamic phase). A color scheme has been developed whereby all bacterial diseases will be in the same color, all virus diseases in another color, and so forth. Where animal reservoirs and vectors play a role these will be indicated by symbols.

The current phase of the project is restricted to the European landmass, Asia Minor, and North Africa. For this area 36 studies are in preparation. The broad framework of planning is so arranged that it may conveniently be integrated into the area plan of the World Health Organization. The type of information provided by such an atlas is directly applicable to the program of the WHO and Point IV of President Truman's program of aid to areas needing assistance, Commander Alvis pointed out.

## **POLIOMYELITIS**

### **Nine of Ten Persons Carry Polio Antibodies**

Antibodies to poliomyelitis virus are acquired naturally during the process of "growing-up," and 9 out of 10 persons over 15 years of age show signs of having antibodies to at least one kind of poliomyelitis virus in the blood, Thomas B. Turner, M.D., Professor of Bacteriology at the School of Hygiene and Public Health of Johns Hopkins University, reported to APHA epidemiologists. In a large-scale research study financed by the National Foundation for Infantile Paralysis, Dr. Turner and associates (David H. Hollander, M.D.; Pentti Kokko, M.D.; and Charles P. Winsor, Ph.D.) tested the blood of 950 persons in Baltimore. While 72 percent of the infants under 3 months of age had protective antibodies in their blood, only 10

percent from 3 months to 1 year of age had polio-resisting antibodies. This was interpreted by Dr. Turner to mean that a great many infants acquired polio antibodies at birth from their mothers, with rapid loss from the third to the twelfth month.

After 1 year of age, antibodies usually increased, reaching 50 percent of the children 4 years old. In the 5- to 9-year age group, 72 percent showed polio antibodies, as did 84 percent of the 10- to 14-year-olds, and approximately 90 percent of those above 15 years of age. The study also indicated that each year about 20 percent of the child population becomes infected with Lansing polio virus, with the vast majority of these infections of the "silent" type.

### ***City-Dwellers Over 20 Immune***

On the basis of epidemiological studies, Herman N. Bundesen, M.D., President of the Chicago Board of Health, reported that city-dwelling adults are virtually immune to all types of the virus by the time they are 20 years old. Studies carried out in association with William I. Fishbein, M.D., Frank M. Schabel, Jr., Ph.D., and Albert E. Casey, M.D., and supported by the National Foundation for Infantile Paralysis, showed that from 3 to 4 percent (100,000 to 125,000) of the population in Chicago become infected yearly, and that the ratio of reported cases to persons actually infected probably exceeds 1 to 100. Nearly all contacts of a poliomyelitis case in its infectious period become infected, they said, particularly if the contacts are young children or members of the patient's family.

From Buffalo came the report that in low rental areas, when environmental factors apparently affect the intensity of exposure to the virus, the disease seems to attack a relatively younger segment of the population. Wendell R. Ames, M.D., M.P.H., Deputy Commissioner of Health for Erie County, based his report on age specific attack rates during outbreaks in 1939, 1944, and 1949.

### ***Geographical Distribution Mapped***

Jacques M. May, M.D., Chief of the Department of Medical Studies of the American Geographic Society, described a map—developed from more than 1,000 sources—which depicts the distribution of poliomyelitis throughout the world since 1900.

It presents three basic types of disease information which may be related to geographic factors: absence or presence of poliomyelitis in any given area; rates, dates, and frequency of occurrence; and age groups most susceptible. Dr. May said the present map offers a challenge to scientists to interpret correctly the significance and relationship, if any, of such factors in epidemic outbreaks of poliomyelitis.

Although three serologically distinct types of the Coxsackie group of viruses have not proved pathogenic for *Cynomolgus* monkeys, the

active agents have been recovered from the sera, nasal washings, and feces after inoculation by intracerebral, intracutaneous, intramuscular, intranasal, and intravenous routes, Beatrice F. Howitt and Velma J. Nichols, of the Laboratory for Virus Identification of the PHS Communicable Disease Center, reported to the Laboratory Section. The viruses were isolated 7 hours after inoculation and continued to be present 5 to 7 days later.

Inoculation of mixtures of Coxsackie and poliomyelitis viruses resulted in the usual course of either agent without interference. Both viruses were recovered from the nervous tissue of the monkeys succumbing to the poliomyelitis virus after intracerebral or intranasal injection. Both Coxsackie and poliomyelitis viruses were recovered by passage of nervous tissue, but not intestinal contents, to a second group of monkeys, the scientists reported. Monkeys injected with Coxsackie viruses were susceptible to subsequent intracerebral inoculation of Brunhilde and Lansing strains of poliomyelitis virus, they said. The scientists added that when Coxsackie and poliomyelitis viruses were injected simultaneously, antibodies for both viruses were present in the blood stream.

## **TERRAMYCIN**

### **New Weapon Against Infectious Disease**

Infectious disease is meeting a new and serious challenger in terramycin, APHA laboratory members learned while discussing new developments in antibiotics.

Gladys Hobby, Ph.D., Bacteriologist for Pfizer and Company, Brooklyn, said that as more and more antimicrobial agents come into use the choice of the proper one becomes of paramount importance, and the proper use of one agent in combination with another offers infinite possibilities for the control of infectious disease in man. Speaking primarily of terramycin, she pointed out that since it became available on an experimental basis in the United States, 10 months ago, its use has been increasingly widespread, and experimental clinical studies have indicated its usefulness in a wide variety of infections. The broad antimicrobial spectrum of terramycin, combined with its low toxicity and its rapid absorption in the body, naturally suggests that the drug should be of special value in the treatment of a wide variety of infections.

#### ***Pneumonias and Brucellosis***

Terramycin has proved effective in treating both bacterial and viral types of pneumonia. Although no specific action has been demonstrated against the virus of influenza or the common cold, the

strong antimicrobial action of terramycin against both the gram-positive and gram-negative microorganisms, as well as its high concentration in sputum, have made it of value in the control of many other respiratory infections, she said.

Terramycin is effective against staphylococcal and streptococcal infections, against infections from the *Shigella* group of organisms, and in the treatment of gonorrhea. Marked improvement in severity of the illness within a few hours after the initiation of therapy has been noted in proved cases of brucellosis. It appears to be effective in the control of many types of urinary tract infections.

Dr. Hobby reported, also, that terramycin is active against certain of the rickettsiae, and appears effective in the treatment of scrub, epidemic, and murine typhus, and in Q fever. It is effective, furthermore, against lymphogranuloma venereum, granuloma inguinale, trachoma, and a variety of other infections.

### ***100 Percent Effective Against Amebiasis***

In hospitals and institutions where the incidence of amebiasis is significant, simultaneous mass treatment by terramycin can control the infection, reported Harry Most, M.D., of the Departments of Medicine and Preventive Medicine, New York University-Bellevue Medical Center. Dr. Most and his collaborators (John E. Tobias, John Bozicevich, and Lucy V. Reardon, all of the Laboratory of Tropical Diseases of the Microbiological Institute, NIH) found that terramycin was 100 percent effective against amebiasis.

On the basis of multiple stool examinations, the team found the apparent effectiveness of the three antibiotics 2 weeks after cessation of therapy was: terramycin, 100 percent; aureomycin, 100 percent; and bacitracin, 59 percent. Two and one-half months after cessation of therapy the effectiveness was: terramycin, 100 percent; aureomycin, 60 percent; and bacitracin, 28 percent. Further post-treatment stool examinations were not performed on the patients treated with aureomycin and bacitracin. However, stool examinations performed 6 months after terramycin therapy revealed an apparent effectiveness of 100 percent for this drug. The prevalence of *E. histolytica* infections in the untreated control group remained the same during the 6-month period.

## **INFLUENZA**

### **Immunological Adjuvants Offer Vaccine Hope**

Results of influenza vaccination studies in monkeys and preliminary observations in man encourage further explorations for devising a

practicable combination of virus plus a mineral oil adjuvant, Jonas E. Salk, M.D., of the Virus Research Laboratory, University of Pittsburgh School of Medicine, reported to the Epidemiology Section.

He said that the marked enhancement and persistence of the antibody inducing effect which was attributable to intramuscular use of the adjuvant had been confirmed in chickens, mice, and monkeys without undesirable local reactions. Even minute quantities of virus mixed with adjuvant induced good antibody responses.

## **TUBERCULOSIS**

### **Case Fatality Affected by Admission Stage**

White patients diagnosed as having active pulmonary tuberculosis lived three times as long as nonwhite patients, a study of 1,672 patients admitted to the Henry Phipps Institute in Philadelphia during the 20 years from 1926 to 1945 shows, Russell E. Teague, M.D., Assistant Director of the Institute, told the Epidemiology Section.

He pointed out that the race factor and the stage of disease on admission were the only bases on which significant differences in fatality rates were found. Economically, the group studied was homogeneous, being drawn from the lowest income area of the city; 703 of the patients were white, 969 nonwhite; 867 male, 805 female. Their mean age at the time of diagnosis was 30.3.

There was little difference in the length of life between males and females, and between patients 15-30, 31-46, and over 46 years of age on admission, and no consistent change in fatalities between the two decades, 1926-35 and 1936-45. But the fatality rate for nonwhite patients was 287 per 1,000 person-years of observation, whereas for whites it was 89.2; and it was 39.8 for patients diagnosed at the minimal stage of the disease, 100.9 for the moderately advanced, and 902.1 for the far advanced.

### ***Chest X-rays and Cancer***

In a 70-mm. film chest X-ray survey of 156,724 people, 307 showed findings of suspicious chest malignancy and 14 were confirmed, G. Howard Gowen, M.D., Chief of the Division of Cancer Control, and Bernard Frank, B.S., Illinois Department of Public Health, reported. They felt that chest X-ray screening is the only hope at present of discovering early cases of primary lung cancer.

Discussing problems of growing tubercle bacilli directly from specimens, Edgar M. Medlar, M.D., Chief of Laboratory at Veterans' Administration Hospital, Sunmount, N. Y., reported to the Laboratory Section that the absence of tubercle bacilli in sputum often does

not indicate either the absence of a sloughing necrotic tuberculous lesion or a paucity of bacilli in such a lesion. The numbers of bacilli in sputum may or may not be indicative of the bacillary count of the pulmonary lesions. Dr. Medlar and his associates (Sidney Bernstein and Frederic C. Reeves) felt that conversion of sputum from positive to negative should not be interpreted as indicating healing of the pulmonary disease, and a reverse shift does not necessarily indicate an imminent clinical increase of the disease. The sporadic demonstration of tubercle bacilli in sputum should be interpreted as evidence of a draining unhealed pulmonary lesion although the individual concerned may be well clinically.

## ULTRAVIOLET LIGHT

### Respiratory Illnesses Unaffected

Two attempts to measure the effect of ultraviolet light upon upper respiratory infections were reported to the Epidemiology Section. In New Haven, the upper air of eight classrooms was irradiated. Abraham Gelperin, M.D., Director of the Bureau of Communicable and Venereal Disease Control of the City Health Department, with Assistant Epidemiologist Morris A. Granoff, M.D., and Health Officer Joseph I. Linde, M.D., analyzed absences due to respiratory tract infections in the irradiated schools and in control groups.

Results ranged from a statistically significant increase in disease to the reverse when populations of the eight irradiated schools were compared with control groups in schools of comparable socioeconomic levels. "The results of this experiment are not conclusive," the team reported, and emphasized the difficulties inherent in the study and evaluation of control methods of respiratory tract diseases.

From Pleasantville and Mt. Kisco, N. Y., came another study of acute respiratory illness. Jean Downes of the Milbank Memorial Fund reviewed the investigation carried on in cooperation with Dr. Mildred W. Wells of the Westchester County Department of Health, who initiated a study of the channels of flow of measles and chicken pox in the two communities.

From the data of acute respiratory illness observed in families during three school years (September 1946 to May 1949), Miss Downes concluded that the introduction of ultraviolet lights in the Pleasantville schools and other places where children congregate did not affect the illness rates. Also, there was no evidence that the seasonal or weekly incidence of such illness among school-age children was affected in any way. In fact, the two communities were strikingly similar in this respect.

## **False Positive High in Central America**

Certain serology test methods for syphilis that have proved reliable in the United States are giving a high percentage of false positive reactions in Central America. Apparently, the false reactions are due to differences in climate, geography, diet, and chronic infections and infestations, Genevieve W. Stout, M.A., Serologist at the Pan American Sanitary Bureau Venereal Disease Laboratory in Guatemala, and John C. Cutler, M.D., of the PHS Venereal Disease Division, reported to the Laboratory Section.

At present, in the United States, comparative results show that serologic tests using lipoidal antigens, as well as those using cardiolipin antigens, are satisfactory. But in Guatemala and Panama there is an important difference in reactivity of the older tests using lipoidal antigens, such as the Kahn, Mazzini and Eagle, and the new tests using cardiolipin antigens. The Institute of Nutrition of Central America and Panama and its field teams are conducting serological tests on controlled groups who are being given detailed physical, nutritional, hematological, and biochemical examinations in an effort to establish data that can be closely studied for suggestions as to the etiology of the presumably false positive reactions.

It was the view of Miss Stout and Dr. Cutler that the high incidence of presumably false positive reactions in Central America offers unusual opportunity for investigation of an extremely important world health program. They said that tests using cardiolipin antigens will be evaluated officially for the first time at the International Serological Conference now being organized by the Subcommittee of Serology of the World Health Organization, and which will probably take place in Europe early in 1952.

## **GAS GANGRENE**

### **“Bursting Factor” Offers Hope of Vaccine**

A vaccine against gas gangrene may be possible as the result of laboratory discovery of a new substance almost invariably found in pathogenic cultures of the perfringens bacillus, it was reported to the Laboratory Section by Victorien Fredette, D.Sc., Associate Director of the Institute of Microbiology and Hygiene of the University of Montreal.

The new substance is called the “bursting factor” because it initiates gas gangrene when added to doses of washed perfringens bacilli which

are by themselves inoperative. Commonly used filters remove or destroy the substance. Only the use of fritted glass filters permits the preparation of the "bursting factor."

Dr. Fredette surmised that since this substance is almost invariably found in pathogenic cultures, whether or not they contain alpha-toxin, it might represent the fundamental agent underlying the characteristic pathogenesis of gas gangrene, at least more so than toxin.

With this hypothesis in mind, several groups of guinea pigs were immunized with multiple doses of the "bursting factor." In 2 groups of 15 animals, 100 percent survival was obtained when challenged by doses of bacilli which killed 58 percent and 80 percent of the controls.

## FOOD POISONING

### Staphylococcus Role Shows Cleanliness Need

More than half of the 34 outbreaks of food poisoning examined by Don M. Griswold, M.D., Medical Consultant for the Mississippi State Board of Health, were caused by the heretofore little-suspected staphylococcus toxin which may, and does, contaminate food at all times, the Epidemiology Section was told.

The staphylococcus organism is present on the skin of the hands at almost all times, indicating the necessity for high standards of cleanliness in the handling, preparation, and serving of food. Of the 19 outbreaks of illness labeled food poisoning and found to have resulted from the presence of staphylococcus toxin, 13 were traced directly to the consumption of cream-filled pastries. In 3 of the 19 cases, the toxin was transported by "creamed" sauce or gravy which had been applied to meat or potatoes.

Nearly 18 percent of the 34 outbreaks were traced to the *Salmonella* organisms. Seven of the 34 outbreaks were due to chemical contaminations, resulting from commercial or manufacturing processes.

Dr. Griswold felt the data indicated not only the need for extreme cleanliness in food handling but also the study of certain industrial processes, sound training in bacteriology and chemistry, research into the natural habitat of pathogens, and clinical acumen in identifying pathological conditions.

In another report on food poisoning, Leo Cravitz, Dr.P.H., and James Gillmore, B.S., of the Rochester General Hospital, found that *Clostridium welchii* (perfringens) tested in man and young cats by oral administration produces an enterotoxin with symptoms of acute food poisoning.

## **Reduced to the Vanishing Point**

A careful review of reported malaria mortality and morbidity, of diagnostic and survey blood examinations, and of case appraisals all support the contention that endemic malaria has been reduced to the vanishing point. But these data are not considered sufficiently extensive to prove that malaria has been eradicated from this country, APHA epidemiologists heard from Justin M. Andrews, Sc. D., Deputy Officer in Charge of the PHS Communicable Disease Center.

Since the 1933-37 epidemic, reported malaria deaths have maintained a regular trend downward in the Nation and in the 13 States participating in the National Malaria Eradication Program, according to Dr. Andrews and his associates (Griffith E. Quinby, M.D., M.P.H.; and Alexander D. Langmuir, M.D., M.P.H.). During the same period, reported malaria morbidity has diminished steadily in the Nation and in the eradication States except for the temporary increases due to the demobilization of service personnel infected overseas.

### ***Residual DDT Spraying Proves Key***

They pointed out that the basic operation of the program represented a complete change from previous malaria control activities. Larviciding, drainage, and programs to promote insect-proofing of houses were abandoned, and efforts were concentrated upon the use of indoor residual DDT sprays in areas where endemic malaria was known to be present or had been reported recently.

The principle of the program was very simple and had been demonstrated already in other parts of the world. Instead of trying to reduce the general abundance of anopheline mosquitoes, Drs. Andrews, Quinby, and Langmuir said, lethal measures were aimed specifically at the small proportion of anophelines that actually bite man. If these could be killed before they had the opportunity to bite humans a second time, malaria could not be transmitted.

### ***Rates Closer to Zero than Supposed***

Evidence from field investigations and appraisal of alleged malaria deaths and cases indicate that more of these now are being reported than can be verified, that the rates of decline of malaria mortality and morbidity actually are steeper than official reports indicate, and that both of these attributes currently are closer to zero than commonly is supposed, Dr. Andrews and his co-workers reported. Critical case appraisal of malaria morbidity reported during 1949 in seven States revealed the presence of only 19 instances which could not be explained on some basis other than transmission in this country.

## Epidemic Potential Suggested

The known distribution of encephalitis and the number of recognized cases, plus the occasional major epidemics observed, widespread epizootics in horses, limited demonstration of control methods, and possible future changes in the balance of environmental factors suggest that these diseases may have an epidemic potential in North America, William C. Reeves, M.P.H., Ph.D., Associate Professor of Epidemiology in the School of Public Health and the Hooper Foundation for Medical Research, University of California, told the APHA Engineering Section and the Inter-American Association of Sanitary Engineering.

Three infections of particular importance are Western equine, Eastern equine, and St. Louis encephalitis. The natural history of these agents indicate a complicated infection chain based on completely inapparent infection in nature, Dr. Reeves said. This involves birds as hosts and mosquitoes as vectors, with mites or some unknown factor serving as a long-term reservoir. Inapparent infection may become a public health problem when the mosquito vector transfers the causative agent to clinically susceptible human hosts.

In most of North America, the need for, or advisability of, developing a control program cannot be evaluated until local health departments determine the extent and nature of the problem in their areas. Dr. Reeves pointed out, however, that in the epidemic and endemic areas where necessary studies have been made, a control program based on protection from mosquito vectors offers great promise.

### *Mosquito Control Indicated in Missouri Basin*

Increased hazards from encephalitis are likely to accompany development of water resources in the Missouri River basin, and, since mosquitoes probably act as vectors of the viruses, the inclusion of antimosquito precautions in plans "would represent a wise course of action," Thomas A. Cockburn, M.D., John A. Rowe, Ph.D., and Edmund R. Price, D.V.M., of the PHS Midwestern Communicable Disease Center Services at Kansas City, predicted to the Epidemiology Section.

They reported that the largest epidemics of encephalitis in the United States in horses and man have occurred in the Missouri River basin. These include epidemics of St. Louis type in 1933 and 1937 in St. Louis, Western equine type in 1941 in the Dakotas and Minnesota, and the horse epizootics in 1912, 1937, and 1938. Reviewing the history of the infections in the 10-State area, they found no obvious correlation between the reported incidences of human and equine cases.

# Medical Care

## MEASURING QUALITY

### Hospital Training Gauge to Quality

"The medical groups whose physicians had more years of hospital training belonged to groups in the classes of higher quality rating," stated Henry Makover, M.D., Medical Director of the Central Manhattan Medical Group, in his description of the methodology of a survey of medical groups associated with the Health Insurance Plan of New York.

"Very clear correlations between the quality ratings in this study and the hospital training of the groups' participating physicians were found," he said. Centralized physical facilities and adequate laboratories are another characteristic of medical groups with the higher ratings, he reported.

The study appraised, on a comparative basis, the quality of medical care furnished by the 26 medical groups operating under contract with the Health Insurance Plan and sought correlation between the quality ratings and significant aspects of operation. Ways for improving the quality of service were suggested. In approaching this task, Dr. Makover recognized the complexity of factors which affect the quality of medical care and the difficulty in defining "good medical care." The methods were devised to appraise the actual medical service received. Reliance was placed on data in clinical records. In addition, data relating to the organization of each group, volume of service, and qualification of physicians were collected.

Four kinds of records were studied: records of routine health examinations, pediatric records, records of patients with malignant neoplasm or suspected neoplasm, and records of patients with gastrointestinal illnesses. It was felt that management of these cases should provide a good index on the general quality of medical practice. A random sample of records in each category was assembled. Between 75 and 100 records were studied for each group. Clinical records were appraised according to acceptable medical performance with respect to the patients' chief complaint and adequacy of recording. Records of health examination were appraised according to adequacy of record and indicated follow-up procedures and conformity with procedures called for in the minimum medical standards of the Health Insurance Plan.

Groups were scored and divided into four classes according to their performance measured by record appraisal. Four medical groups fell into class I; nine into class II; eight into class III; and five into class IV. Groups falling in the first two classes serve much larger numbers of subscribers than do groups in the other two classes. From this, Dr. Makover concluded that the majority of the health insurance subscribers are receiving medical services of better than average quality. Number of services provided for each enrollee did not show a clear relationship to the quality rating unless the utilization rate was very low.

## HEALTH INSURANCE

### Cash No Substitute for Care

Group practice and regional organization of hospitals are the two methods holding greatest promise for the improvement of the quality of medical care, Franz Goldman, M.D., Associate Professor of Medical Care of the Harvard School of Public Health, said in discussing the lessons from voluntary and compulsory plans.

Dr. Goldman presented an over-all appraisal of the organizational and administrative experience of the two forms of health insurance and stated that the value of medical-care insurance depends on the degree to which it provides adequate service at a reasonable cost. "Cash is no substitute for care," he said.

To assure the highest quality of medical care, an effective "service organization" must be established close to each group of insured people, he maintained. Freedom of experimentation with group practice is imperative. Modern medical care insurance plans must be designed to preserve and promote health by preventive services, and to reduce serious illness by early diagnosis and prompt and thorough treatment.

Medical care insurance in itself does not constitute a broad health program, he asserted. It must be developed together with full-time health units furnishing the basic public health services, with a well-rounded hospital system, and with provisions for education of a sufficient number of competent health personnel. Careful, unbiased study of the vast experience with both voluntary and compulsory medical care insurance offers every country ample opportunity not only to avoid repetition of old mistakes but to select and improve the method of organization most suitable for its own requirements.

The criteria of adequacy for a medical care insurance plan can be met by a nonprofit medical care insurance program if it provides for comprehensive coverage without disease exclusions, or additional

detering charges, and if it serves family units through complete groups of general physicians and specialists.

This was indicated in the discussion of professional services under medical care insurance by George Baehr, M.D., President and Director of the Health Insurance Plan of Greater New York.

"An American business or industry or union welfare fund is at liberty to purchase any of the available plans for its workers, which, in its wisdom or ignorance, it considers most advantageous," Dr. Baehr stated. "The decision is usually based on one of two reasons—that the premiums are lower than those of any other available plan or that the medical benefits are comparatively greater. The average purchaser has as yet exhibited little interest in the scope and quality of the medical services which the workers as a whole will receive under the plan or in the ability of the plan to provide preventive medical services and early detection of disease. Coverage is often limited to employees in spite of the sometimes greater needs of the spouse and children."

### *Aims of Insurance Can Be Met*

Medical care insurance is generally assumed to have a twofold purpose, Dr. Baehr stated. The first is to reduce the financial burdens of illness by spreading the cost through the medium of prepayment and the second, as a direct result of reducing the cost per individual, is to increase the utilization of medical services. In addition, he said there should be two other important aims: to improve the scope and quality of medical care for the insured population, and to promote the prevention of disease and facilitate its detection at an early stage when it can be cured or arrested.

The Health Insurance Plan of Greater New York is demonstrating that these objectives can be accomplished, he said, within limitations of a reasonable premium when the medical services are provided by group practice and premium income is distributed to the medical groups on a capitation basis. After 3½ years, 30 autonomous medical groups totaling almost 900 general physicians and specialists are providing comprehensive medical care under the Health Insurance Plan to more than 255,000 enrolled persons, including preventive services and visiting nurse service in the homes, without waiting periods or disease exclusions and without extra charges. The great majority of health insurance subscribers (about 211,000) are enrolled under 66,000 family contracts. The comprehensiveness of the program is indicated by the fact that the 255,000 enrolled persons are receiving approximately a million and a quarter professional services a year.

The rapid growth of voluntary insurance plans has changed the test of medical indigence from the postpayment of costs of medical care

to the ability to prepay, Frank G. Dickinson, Ph.D., Director of the AMA Bureau of Medical Economic Research, stated in his discussion of the methods and rates of payment on voluntary health insurance plans. He said that only those persons who cannot afford the combined premium for both Blue Cross and Blue Shield membership are considered medically indigent today.

### ***Average Four-Fifths of Total Bill***

Some people have the notion, Dr. Dickinson stated, that voluntary health insurance plans pay only small claims, never more than a few hundred dollars for one illness. He pointed out that the largest claim paid in 1949 by a Blue Cross plan for hospital insurance was \$5,578.80, about \$650 less than the patient's entire hospital bill. The largest claim paid by a Blue Shield plan (for physician's fees) was \$1,771, only \$40 less than the bill the patient was required to meet.

The average family subscriber to Blue Cross hospital insurance plans is reimbursed for about four-fifths of the total hospital bills of the family. On the average, the Blue Shield family subscriber is reimbursed for one-half to three-fifths of the amounts paid to physicians. Blue Shield plans ordinarily do not cover home and office calls, a fact which lowers the percentage of reimbursement for the average family member.

At the end of 1949, all types of voluntary health insurance protected 34,000,000 persons against loss of income while ill, 66,000,000 against hospital bills, 41,000,000 against fees for surgery and 17,000,000 for medical fees (other than surgical fees).

### ***Plans Must Be Adequately Financed***

"Adequate financing is fundamental if a medical care insurance plan is to achieve the objectives of a broad insurance coverage of the population, comprehensive insurance protection against burdensome medical costs, maintenance of high quality of care, fair payments to those who provide the services, and encouragement of future progress in medicine," stated I. S. Falk, Ph.D., Director of the Division of Research and Statistics of the Social Security Administration.

Dr. Falk outlined five tests used to examine the financing of medical care insurance: fair payments to providers of service; support of high quality care; financial stability and flexibility; adjustment of contributions to ability to prepay; and administrative economy and efficiency.

Dr. Falk maintained that some of the financial difficulties inherent in voluntary systems could be avoided by a compulsory system. Long range stability and effectiveness of a compulsory system would depend, he claimed, on adoption of the principle of gearing rates to income and by maintaining broad coverage.

### **In-Plant Services, Insurance Growing**

Medical care programs for industrial workers—including in-plant health services, Blue Cross and Blue Shield Plans, and union programs—were discussed at a joint session of the Industrial Hygiene and Medical Care Sections. Ernest W. Miller, M.D., Medical Director of the Employees Mutual Benefit Association, Milwaukee Public Service Companies, reported on a program which provides both treatment of on-the-job injuries to 7,500 employees and complete medical care to these employees and their 20,000 dependents. General medical, surgical, and obstetrical care, financed by the employee benefit association, is provided in the Central Medical Office, the offices of district physicians, hospitals, and in the patients' homes. Monthly dues of \$1.25 per employee member are matched by the employers. The over-all average cost of medical service, including fees for obstetrical services, amounted to \$19.03 per member.

The role of commercial insurance companies in promoting the health of industrial workers through Workmen's Compensation and group policies was described by Leslie P. Hemry, Vice President and General Counsel of the American Mutual Liability Insurance Co. of Boston. He reported that on December 31, 1949, over 10 million workers were covered by group insurance against loss of income due to disability; over 17 million people, by group hospital expense insurance; 15 million, for group surgical expense insurance; and 2 million, for group medical expense insurance.

#### ***Blue Cross and Blue Shield***

E. A. van Steenwyk, Executive Director of the Associated Hospital Service of Philadelphia, reported that arrangements have been made to enable Blue Cross and Blue Shield members to transfer their membership to similar plans in other areas without waiting periods or penalties. Blue Cross subscribers, if they become ill while away from home, may also receive service benefits from the Blue Cross Plan in that area. Another important development in the Blue Cross movement, he said, is the recently negotiated industry-wide contracts providing uniform benefits at uniform rates for employees in the steel and automobile industries in 40 or more States.

Mr. van Steenwyk concluded that the dynamic character and unlimited potential of these plans—Blue Cross today has 36 million subscribers—ensure that Blue Cross and Blue Shield Plans will continue to meet the medical care needs of the Nation.

Excellent opportunities for the coordination of preventive and therapeutic medicine are provided in newer medical programs for

workers, according to E. Richard Weinerman, M.D., Medical Director of the Permanente Health Plan, Oakland, Calif., and Herbert K. Abrams, M.D., Chief of the Bureau of Adult Health, California State Department of Public Health. In effecting such coordination, the collective bargaining agreement is a potential ally of public health, although the current contract clauses on industrial health and safety and on prepaid medical care are almost always unrelated. In California, many union agreements now include specific industrial health measures, ranging from the protection of spray painters to the establishment of joint labor-management safety committees, and a few embody recommendations made by the State industrial hygiene agency. By February 1950, more than 112,000 workers were covered by health benefits under labor-management agreements, and an estimated 20,000 more, plus families, have been added since that date.

Harry J. Becker, Director of the Social Security Department of the United Automobile Workers Union, CIO, emphasized that organized labor has now given a higher priority than ever before to obtaining improved standards of medical service and better methods of meeting the cost of comprehensive medical care. Under collective bargaining programs, Mr. Becker said, hospitalization insurance, financed by the employer as a cost of doing business and provided through Blue Cross, will probably eliminate the entire economic burden of hospitalized illness for employed industrial workers. However, the necessity to use existing cash indemnity plans for physician care has meant that the adequacy and quality of medical care has not changed nor can it be expected to change under these programs as now constituted. Labor's gains under collective bargaining will force needed action through voluntary plans or through governmental action, or more probably through a combination of both, he felt.

## **GROUP PRACTICE**

### **Not an Organization, but a Process**

Group medical practice is a way of life and an attitude toward health service, not merely an administrative device to increase quality, reduce costs, or stabilize medical income, C. Rufus Rorem, Ph.D., C.P.A., Executive Director of the Hospital Council of Philadelphia, told the APHA joint sessions on Medical Care.

In his discussion of the patterns and problems of group medical care, Dr. Rorem stated that the public does not distinguish between functions of diagnosis and treatment and wishes to receive complete medical care from the same medical organization.

He pointed out that group medical practice is being developed in

order to coordinate the special knowledge and skill of individual practitioners, and to assure effective utilization of expensive diagnostic and treatment facilities. It makes possible common interest of a number of physicians in the care of individual patients.

Dr. Rorem described many features of group practice, including specialized professional qualifications of the practitioners; contiguity of professional office with availability for regular and frequent consultations concerning individual patients; joint use of supplementary services; some joint ownership of equipment, apparatus, or buildings; cooperative, rather than competitive division of total income among the group.

The development of group medical practice will be dependent upon the degree to which doctors consider such activities favorable to their immediate and long-run self-interest, he said. Opportunity for unfettered professional service is a greater factor than total income.

Rather than a form of organization, group medical practice is a process of "evolution" which is developing gradually. It follows a series of "revolutions" in medical science. Group medical service is being developed to coordinate the specialized knowledge and skill of individual practitioners, and to utilize effectively the public's investment in diagnostic and treatment facilities, including hospitals. But a "cultural lag" still remains between what is known and what is being done about it.

## **JOINT HOUSING**

### **Two Services Under One Roof**

With the narrowing of the gap between curative and preventive medicine has come another progressive step—the housing of the local health department and a hospital under the same roof, said Anthony J. Borowski, Dr.P.H., Chief of the Division of Hospital Facilities of the Ohio Department of Health, speaking before a combined session of the Health Officers, Laboratory, and Medical Care Sections.

Dr. Borowski pointed out that a union of these two types of service under one roof can be effected only after a thorough airing of the benefits to be derived, the points of possible conflict, complete explanation to the public, and a sympathetic and cooperative attitude of each of the two services toward the other. In addition, there must be careful physical and procedural planning to keep the health center out of the basement, close to hospital adjunct services such as laboratory, X-ray, pharmacy, and in a position where there can be cooperation between the personnel of the two organizations in the fields of nursing, diet, maternal and child hygiene, and the like.

Ten years' experience in joint housing of a hospital, health department, and a laboratory was reviewed by William A. Harris, M.D., M.P.H., Deputy Maryland State and Charles County Health Officer. It has been his experience that through frequent contacts between the health officer and practicing physicians who regularly visit patients in the hospital a close working relationship has developed.

### ***Benefits Both Departments***

The health officer and the nurse superintendent of the hospital confer frequently. They have found that many problems are joint and are jointly solved. The laboratory is a branch unit of the State health department and serves both the county health department and the hospital. It is supported mainly by the health department, but alone neither the department nor the hospital could afford the laboratory. All thoughts of expansion have joint housing in mind.

As a hospital administrator, E. Dwight Barnett, M.D., Director of Harper Hospital in Detroit, pointed out that one of the functions of hospitals is to foster community public health and preventive medicine programs. Although many hospitals would like to carry out this function to the fullest, they sometimes find a lack of interest on the part of health departments.

In 1948, Dr. Barnett recalled, a joint committee of the American Hospital Association and APHA developed a policy, later approved, suggesting that both groups work closely together for community health. The Hill-Burton Act has helped bring hospitals and health departments under the same roof. Whenever joint housing is possible, it will improve the efficiency of both departments. Although this close cooperation has started in rural areas, full advantage of it has not been taken in the larger cities, he said.

### ***Approval is General***

Under the Hospital Planning and Construction Act, over 250 health centers have been approved, and about 50 of these are being planned in connection with hospital facilities, Milton Terris, M.D., M.P.H., Staff Director of the Subcommittee on Medical Care of the APHA, commented in reporting on a survey of joint housing.

He reviewed studies of 24 local health units where joint housing—and in some cases joint administration—is in effect. The majority of health officers interviewed felt that the greatest single advantage of joint housing was the opportunity it provides for close contact with practicing physicians and the hospital staff. The major disadvantage was found to be confined to the combined units in which the health department is housed in the hospital building—this largely related to pressure on space.

The great majority of the health officers considered that the advantages of joint housing outweigh the disadvantages, while only 3 of the 24 health officers expressed opposition to joint housing on the basis of their experience. Practically all of the hospital directors interviewed likewise expressed approval of joint housing. Dr. Terris felt there was little doubt, on the basis of this survey, that the location of hospitals and health departments in close proximity is a valuable means of facilitating the coordination of preventive and curative medicine in the interest of better health service for the individual and the community.

## **MEDICAL FACILITIES**

### **Research Centers Pose Environmental Problems**

Placing patients in close physical relationship to research teams and their laboratories is an important development in modern research centers. As a result, new problems have been precipitated in construction, equipment, and operation which are of direct concern to engineers, Donald L. Snow, PHS Sanitary Engineer, National Institutes of Health, told the Engineering Section.

He noted that medical research programs often involve large numbers of animals, the handling of pathogenic, toxic, inflammable, corrosive, and radioactive materials. These inherent hazards become even more serious when they occur near nursing units. Prudent planning and experienced administration can reduce these hazards.

We need to emphasize the desirability of keeping in the planning foreground those environmental requirements bearing on the health, safety, and physical comforts of a hospital research center. Mr. Snow illustrated his theme with examples from the PHS Clinical Center now under construction which will accommodate 500 patients and over 1,000 laboratory modules. He spoke of the design of nursing units, flexibility in laboratories, centralization of services, and safeguards for special activities.

#### ***Study Conflicting Interests***

To provide a healthful and relaxing atmosphere for the patients, conditions of convenience and utility for the staff, and a structure safe for all demands an awareness of various and sometimes conflicting interests. Such basic concepts as placing nursing units in the general vicinity of laboratory operations can set off a literal chain reaction of problems. Their consequences can affect not only the structural, air-conditioning, and equipment design, but the selection of interior finishes, what housekeeping procedures must be modi-

fied, and even what types of waste containers should be used and how wastes are to be disposed of ultimately.

To gain real acceptance, it is imperative that each feature, prescribed for reasons of health and safety, be measured as to how it fits into the hospital research center's operational pattern. To this end, sanitary engineers and other sanitation workers can fill a unique role by thinking in more intimate terms of both the environmental and operating problems of our modern medical centers. Here they can help bring together, through both observation and subsequent research, areas of deficient information. Finally, they can vigorously insist that in the building-planning stage their studied recommendations be weighed fairly in the economic-health balance, Mr. Snow said.

# Incidence of Disease

*No health department, State or local, can effectively prevent or control disease without knowledge of when, and under what conditions cases are occurring*

## UNITED STATES

Reports from States for Week Ended November 25, 1950

### Measles

For the current week 2,026 cases of measles were reported as compared with 1,286 for the same week last year, and a 5-year (1945-49) median of 1,936 cases. The States reporting the largest number during the current week were Wisconsin (389), Missouri (210), California (145), Kentucky (145), Ohio (144), and Illinois (120).

### Influenza

Approximately the same number of new cases was reported for the current week (2,000) as compared with the same week last year (1,997). Seventy-four percent of the total occurred in Texas and Virginia. Hawaii reported 128 cases during the current week as compared with 544 for the previous week.

### Comparative Data For Cases of Specified Reportable Diseases: United States

[Numbers after diseases are International List numbers, 1948 revision]

Disease	Total for week ended—		5-year median 1945-49	Seasonal low week	Cumulative total since seasonal low week		5-year median 1944-45 through 1948-49	Cumulative total for calendar year		5-year median 1945-49
	Nov. 25, 1950	Nov. 26, 1949			1949-50	1948-49		1950	1949	
Anthrax (062).....	1		(1)	(1)	(1)	(1)	42	47	(1)	
Diphtheria (055).....	116	240	380	27th	2,296	3,410	4,594	5,424	7,178	10,891
Acute infectious encephalitis (082).....	29	8	9	(1)	(1)	(1)	915	716	587	
Influenza (480-483).....	2,000	1,997	2,167	30th	22,433	18,484	19,245	268,692	94,351	162,233
Measles (065).....	2,026	1,286	1,936	35th	12,700	8,942	12,596	300,871	597,460	572,953
Meningococcal meningitis (057.0).....	64	58	59	37th	601	574	574	3,400	3,090	3,128
Pneumonia (490-493).....	1,070	1,229		(1)	(1)	(1)	(1)	73,251	69,868	
Acute poliomyelitis (080).....	569	506	366	11th	30,229	40,096	23,794	31,360	41,009	24,261
Rocky Mountain spotted fever (104).....	2	3	3	(1)	(1)	(1)	(1)	451	558	548
Scarlet fever (050).....	1,021	1,183	1,721	32d	9,321	10,049	12,978	49,491	67,715	74,613
Smallpox (084).....	4	1	2	35th	(1)	7	5	33	46	155
Tularemia (059).....	10	9	21	(1)	(1)	(1)	(1)	802	1,003	873
Typhoid and paratyphoid fever (040, 041) 4.....	49	47	59	11th	2,694	3,150	3,150	3,203	3,638	3,638
Whooping cough (056).....	1,640	1,904	2,011	39th	13,066	12,701	13,810	110,261	59,303	89,685

<sup>1</sup> Not computed.

<sup>2</sup> Deduction: Michigan, week ended October 7, 1 case. Addition, Iowa, delayed report, 33 cases.

<sup>3</sup> Deduction: Arkansas, week ended November 4, 1 case.

<sup>4</sup> Including cases reported as salmonellosis.

## Other Diseases

Four cases of smallpox were reported in Kansas for the current week. There was one case of anthrax in New Jersey. A substantial decrease in number of poliomyelitis cases has occurred, 569 cases for the current week as compared with a total of 958 cases for the previous week. The total number reported since the seasonal low point in 1950 is 30,229 as compared with 40,096 in 1949.

## Reports of Epidemics

### *Keratoconjunctivitis*

Dr. R. O. Saxvik, State Health Officer, North Dakota, has reported that 89 cases of keratoconjunctivitis were reported in Minot and vicinity. All cases were reported by two ophthalmologists in Minot, and the diagnosis of several source cases was confirmed at the University of Minnesota.

### *Rabies in Man*

Dr. George W. Cox, State Health Officer, Texas, has reported that the current rabies epizootic in El Paso has resulted in a human death from rabies on November 4, 1950. There have been approximately 1,000 rabid animals reported in Texas as a whole since January 1, 1950.

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## **Deaths During Week Ended November 25, 1950**

	<i>Week ended Nov. 25, 1950</i>	<i>Corresponding week, 1949</i>
Data for 90 large cities of the United States:		
Total deaths.....	8, 281	8, 515
Median for 3 prior years.....	8, 515	-----
Total deaths, first 47 weeks of year.....	414, 806	415, 434
Deaths under 1 year of age.....	527	582
Median for 3 prior years.....	582	-----
Deaths under 1 year of age, first 47 weeks of year.....	27, 964	29, 387
Data from industrial insurance companies:		
Policies in force.....	69, 644, 678	70, 023, 632
Number of death claims.....	10, 522	10, 854
Death claims per 1,000 policies in force, annual rate.....	7. 9	8. 1
Death claims per 1,000 policies, first 47 weeks of year, annual rate.....	9. 2	9. 1

# Reported Cases of Selected Communicable Diseases: United States, Week Ended November 25, 1950

[Numbers under diseases are International List numbers, 1948 revision]

Area	Diphtheria (055)	Encephalitis, infectious (062)	Influenza (480-483)	Measles (085)	Meningitis, meningococcal (057.0)	Pneumonia (490-493)	Polio-myelitis (080)
<b>United States</b> .....	<b>116</b>	<b>29</b>	<b>2,000</b>	<b>2,026</b>	<b>64</b>	<b>1,070</b>	<b>569</b>
<b>New England</b> .....	<b>3</b>		<b>1</b>	<b>67</b>	<b>3</b>	<b>41</b>	<b>18</b>
Maine.....				3	2	7	1
New Hampshire.....			1	13		1	
Vermont.....				1			1
Massachusetts.....	2			41	1		10
Rhode Island.....				1		1	2
Connecticut.....				8		32	4
<b>Middle Atlantic</b> .....	<b>3</b>	<b>1</b>	<b>4</b>	<b>220</b>	<b>11</b>	<b>350</b>	<b>107</b>
New York.....	1	1	13	83	5	278	89
New Jersey.....			1	43	1	27	8
Pennsylvania.....	2			94	5	45	10
<b>East North Central</b> .....	<b>7</b>	<b>5</b>	<b>35</b>	<b>711</b>	<b>11</b>	<b>114</b>	<b>141</b>
Ohio.....	3	1	11	144	6		43
Indiana.....	1	1	2	15		29	13
Illinois.....	1			120	1	56	36
Michigan.....	2	1	1	43	3	21	40
Wisconsin.....		1	21	389	1	8	9
<b>West North Central</b> .....	<b>4</b>	<b>1</b>	<b>6</b>	<b>269</b>	<b>8</b>	<b>49</b>	<b>54</b>
Minnesota.....	1			11	1	22	15
Iowa.....	1			5		1	7
Missouri.....	2		3	210	1	10	8
North Dakota.....		1		15	2	8	1
South Dakota.....							7
Nebraska.....					1		4
Kansas.....			3	28	2	8	12
<b>South Atlantic</b> .....	<b>35</b>	<b>1</b>	<b>232</b>	<b>45</b>	<b>12</b>	<b>77</b>	<b>60</b>
Delaware.....					1		
Maryland.....				4		17	7
District of Columbia.....				1		8	2
Virginia.....	3		177	9	6	26	11
West Virginia.....			30		2		3
North Carolina.....	11	1		26	3		11
South Carolina.....	3		7	1		5	4
Georgia.....	13		17	2		10	9
Florida.....	5		1	2		11	13
<b>East South Central</b> .....	<b>22</b>	<b>3</b>	<b>42</b>	<b>178</b>	<b>5</b>	<b>51</b>	<b>25</b>
Kentucky.....	4			145	1	15	5
Tennessee.....	8	2	14	21	1		10
Alabama.....	8		13	1		15	4
Mississippi.....	2	1	15	11	3	2	6
<b>West South Central</b> .....	<b>23</b>	<b>4</b>	<b>1,450</b>	<b>125</b>	<b>8</b>	<b>280</b>	<b>40</b>
Arkansas.....	7	1	95	26		29	8
Louisiana.....	2		2	5		20	3
Oklahoma.....	2	1	46	3	1	14	6
Texas.....	22	2	1,307	91	7	217	23
<b>Mountain</b> .....	<b>3</b>	<b>1</b>	<b>206</b>	<b>188</b>		<b>29</b>	<b>23</b>
Montana.....	1	1		2			1
Idaho.....			4	20			2
Wyoming.....				2			1
Colorado.....	2		29	102		3	8
New Mexico.....				28		3	2
Arizona.....			174	15		23	5
Utah.....				19			4
Nevada.....							
<b>Pacific</b> .....	<b>7</b>	<b>13</b>	<b>22</b>	<b>223</b>	<b>6</b>	<b>79</b>	<b>101</b>
Washington.....	1		7	66	1	2	25
Oregon.....	1		0	12		11	12
California.....	5	13	14	145	5	66	64
Alaska.....							
Hawaii.....			128				

<sup>1</sup> New York City only.

*Anthrax*: New Jersey, 1 case.

**Reported Cases of Selected Communicable Diseases: United States, Week Ended November 25, 1950—Continued**

[Numbers under diseases are International List numbers, 1948 revision]

Area	Rocky Mountain spotted fever (104)	Scarlet fever (050)	Small-pox (084)	Tularemia (059)	Typhoid and paratyphoid fever <sup>1</sup> (040, 041)	Whooping cough (056)	Rabies in animals
<b>United States</b> .....	<b>2</b>	<b>1,021</b>	<b>4</b>	<b>10</b>	<b>49</b>	<b>1,640</b>	<b>72</b>
<b>New England</b> .....	<b>108</b>				<b>3</b>	<b>290</b>	
Maine.....	24				1	110	
New Hampshire.....	12				2	4	
Vermont.....	4					31	
Massachusetts.....	54					85	
Rhode Island.....	2					39	
Connecticut.....	12					21	
<b>Middle Atlantic</b> .....	<b>98</b>				<b>10</b>	<b>253</b>	<b>17</b>
New York.....	62				6	100	15
New Jersey.....	7				1	60	
Pennsylvania.....	29				3	98	2
<b>East North Central</b> .....	<b>286</b>			<b>2</b>	<b>6</b>	<b>426</b>	<b>7</b>
Ohio.....	102				2	64	5
Indiana.....	18			1	2	25	
Illinois.....	45				1	39	1
Michigan.....	97			1	1	114	1
Wisconsin.....	24					184	
<b>West North Central</b> .....	<b>46</b>		<b>4</b>		<b>3</b>	<b>84</b>	<b>6</b>
Minnesota.....	12					6	1
Iowa.....	1					10	3
Missouri.....	15				3	17	
North Dakota.....	1					3	
South Dakota.....	2					1	
Nebraska.....	1					12	
Kansas.....	14		4			35	2
<b>South Atlantic</b> .....	<b>2</b>	<b>159</b>		<b>4</b>	<b>13</b>	<b>204</b>	<b>10</b>
Delaware.....						11	
Maryland.....		7			1	25	
District of Columbia.....		4			1	7	
Virginia.....		22			2	70	3
West Virginia.....		11			1	11	
North Carolina.....		92			1	50	
South Carolina.....		6			1	9	5
Georgia.....	2	13		3	4	12	2
Florida.....		4		1	2	9	
<b>East South Central</b> .....		<b>104</b>		<b>1</b>	<b>1</b>	<b>63</b>	<b>12</b>
Kentucky.....		15				14	4
Tennessee.....		49				27	3
Alabama.....		25		1		20	4
Mississippi.....		15			1	2	1
<b>West South Central</b> .....		<b>58</b>		<b>1</b>	<b>7</b>	<b>160</b>	<b>20</b>
Arkansas.....		4		1	1	25	2
Louisiana.....		5			1	2	
Oklahoma.....		10			2	9	
Texas.....		39			3	124	18
<b>Mountain</b> .....	<b>29</b>			<b>2</b>	<b>3</b>	<b>97</b>	
Montana.....	3			2		21	
Idaho.....	1					5	
Wyoming.....						7	
Colorado.....	9					14	
New Mexico.....					2		
Arizona.....	5					49	
Utah.....	11					1	
Nevada.....					1		
<b>Pacific</b> .....	<b>133</b>				<b>3</b>	<b>58</b>	
Washington.....	48					18	
Oregon.....	8					9	
California.....	77				3	31	
Alaska.....						11	
Hawaii.....							

<sup>1</sup> Including cases reported as salmonellosis.

<sup>2</sup> Including cases reported as streptococcal sore throat.

# FOREIGN REPORTS

## CANADA

Reported Cases of Certain Diseases—Week Ended November 11, 1950

Disease	New-found-land	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox			20	1	137	348	51	109	94	124	884
Diphtheria					3			1			4
Dysentery, bacillary					3	2					15
Encephalitis, infectious							1				1
German measles					4	28	2	14	23	26	97
Influenza			22			8	3				33
Measles	1		3		290	558	23	1	21		946
Meningitis, meningococcal					2	3	1	1			7
Mumps	1		4		56	242	16	69	157	43	588
Polio-myelitis				1	2	4					9
Scarlet fever	9			1	46	35	28	10	61	23	213
Tuberculosis (all forms)	3		4	13	68	14	16	5	11	38	172
Typhoid and paratyphoid fever	2				2	1			1	1	7
Veneral diseases:											
Gonorrhoea	6		1	4	68	70	19	17	52	75	312
Syphilis	1		4	6	51	15	5	5	4	10	101
Primary				1	1	4		4	1	1	12
Secondary					2				3		5
Other	1		4	5	48	11	5	1		9	84
Whooping cough			2	11	59	111	27		1	18	229

## REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

The following reports include only items of unusual incidence or of special interest and the occurrence of these diseases, except yellow fever, in localities which had not recently reported cases. All reports of yellow fever are published currently. A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

### Cholera

*Burma.* During the week ended November 4, 1950, 11 cases of cholera were reported. For the weeks ended October 21 and 28, 20 and 3 cases, respectively, were reported.

*Cambodia.* Six cases of cholera were reported in Kratie Province for the week ended November 11, 1950. These are the first cases reported in that province.

*India.* For the week ended November 18, 1950, 10 cases of cholera were reported in Tiruchirappalli. During the weeks ended November 4 and 11, 3 and 2 cases, respectively, were reported. Cholera was reported in other localities for the week ended November 18 as follows: Calcutta 45 cases, Madras 22 cases, and Nagapatnam 7 cases.

### Plague

*Madagascar.* During the period October 21–31, 1950, 7 cases (7 deaths) of plague were reported in the provinces of Madagascar, and 7 cases (5 deaths) were reported for the period November 1–10.

### Smallpox

*Indonesia.* During the week ended October 21, 1950, three cases of smallpox were reported in Pontianak, Borneo. Smallpox was reported on the island of Java as follows: Week ended October 28, 1 case in Cheriban; week ended November 4, 3 cases in Bandoeng; week ended November 11, 24 cases in Surabaya.

*Iran.* Seven cases of smallpox were reported in Iran during the week ended November 18, 1950.

*Nigeria.* During the week ended October 7, 1950, 387 cases (47 deaths) of smallpox were reported as compared with 254 (77 deaths) for the previous week. In Lagos 6 cases were reported for the week ended October 7, compared with 3 for the previous week.

*Peru.* There were 365 cases of smallpox reported during August 1950, 8 of which were reported in Arequipa.

*Togo.* For the period November 1-10, 1950, 16 cases of smallpox were reported in Togo.

### Typhus Fever

*Hawaii.* During the week ended November 11, 1950, one case of typhus fever was reported in Honolulu.

*India (Portuguese).* During the week ended October 21, 1950, five cases of typhus fever were reported as compared with one for the previous week.

*Peru.* During August 1950, 146 cases of typhus fever were reported in Peru. Four of these cases were reported in Arequipa.

### Yellow Fever

*Peru.* For the week ended June 20, 1950, two deaths resulted from jungle yellow fever in Tingo Maria, Huanuco Department, and for the period July 7-21, two additional deaths were reported. In San Martin Department one death was reported in Bellavista on June 13 and on June 19 one death was reported in Tarapoto. One death was reported July 22, 1950, in Pucalpa, Loreto Department.

*Venezuela.* On November 14, 1950, one fatal case of jungle yellow fever was reported in El Milagro, Tachira State. This case came from the jungle zone of San Camilo.

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### QUARANTINE MEASURES

Certificates and procedures specified below are required for persons arriving in Egypt, Somaliland, Iraq, Lebanon, and Chile.<sup>1</sup>

#### Africa

*Egypt.* International cholera vaccination certificate for persons

<sup>1</sup> Prepared by the Division of Foreign Quarantine from information obtained from the Weekly Epidemiological Record of the World Health Organization, and other official sources.

who transited India and Pakistan or boarded aircraft there in transit to or stopping at Cairo.

Official certificate of stool examinations made on two successive days before departure from India or Pakistan for persons stopping at Cairo who transited those countries or boarded aircraft there. Persons without this certificate are quarantined at Cairo pending negative stool examination reports.

*Somaliland (Italian).* Cholera vaccination certificate attesting to second inoculation not more than 6 months or less than 6 days before entry for persons from India, Pakistan, or other cholera infected areas. Certificate must state number of vibrios per cc., and that minimum of 6,000 million vibrios was injected.

Smallpox vaccination certificate issued not more than 3 years or less than 14 days before arrival, for all travelers.

Typhus and typhoid fever inoculation certificates issued not more than 12 months before arrival, for all persons.

Yellow fever inoculation certificate issued not more than 4 years or less than 10 days before arrival, for all persons from yellow fever areas.

Arrivals from an infected area who stay in Somaliland are subjected to vaccination and surveillance in absence of above certificates. In-transit travelers lacking a valid certificate may continue journey if medical inspection reveals freedom from infection.

#### Asia

*Iraq.* Arrivals from Saudi Arabia must have valid cholera vaccination certificate; persons staying in Iraq are quarantined or placed under surveillance pending negative report of bacteriological tests; transit passengers are isolated until departure.

#### South America

*Chile.* Before receiving a visa to Chile, travelers must present a certificate of smallpox vaccination performed at least 15 days but not more than 3 years previously. Tourists not required to have a visa must present such a vaccination certificate on arrival in Chile.

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**—Examination—**

**Entomologists, Parasitologists, and Protozoologists**

Examinations for scientists and sanitarians (entomologists, parasitologists, and protozoologists) in the Regular Corps of the Public Health Service will be held February 12–14, 1951, in various cities throughout the country. Completed applications must be in the Washington office by January 15.

Appointments are permanent and provide opportunities for career service in research and public health activities. Benefits include periodic pay raises and promotions; liberal retirement provision; medical care; annual and sick leave.

Appointments will be made in the grade of assistant and senior assistant, equivalent to Navy ranks of lieutenant, j. g., and lieutenant, respectively. Entrance pay is \$4,486 for assistant (with dependents) and \$5,346 for senior assistant, including rental and subsistence allowance.

Candidates must have at least 7 years of professional training and experience beyond high school, and must have, or expect to receive by November 1951, a master's or doctor's degree.

For application forms and additional information, write to: Surgeon General, United States Public Health Service, Federal Security Agency Washington 25, D. C. Attention: Division of Commissioned Officers.

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